



NDCEE

National Defense Center for Energy and

Perspectives on Sustainability

Briefing to Marine Corps Base Hawaii

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**DoD Executive
Agent**

Office of the
Assistant Secretary
of the Army
(Installations and
Environment)

The *Real* Reason I'm Here!



Oxford, Georgia - March 1, 2009

Outline

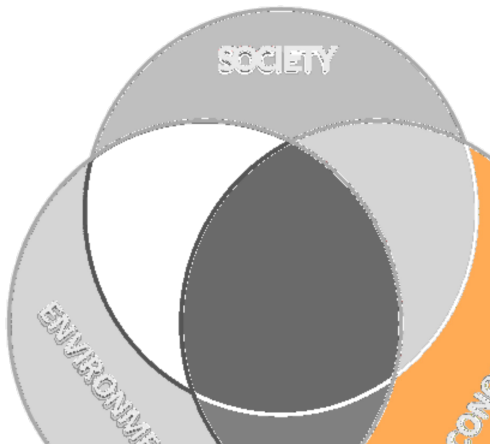
- Definitions
 - What it is to the Defense community?
- Value Proposition
 - Why it matters to the Defense mission?
- Historical and Current Perspectives
 - How did we get here? Where are we going?
- Pioneering Initiatives
 - What is being done within the Defense community?

Sustainability Defined for Defense

- ability to maintain the necessary level and duration of operational activity to achieve military objectives
 - Joint Publication 1-02
- the capacity to continue the mission without compromise. It is the ability to operate into the future without decline – either in the mission or the natural and man-made systems that support it
 - United Facilities Code 4-030-01, Sustainable Development
- ability to simultaneously meet current as well as future mission requirements worldwide, safeguard human health, improve quality of life, and enhance the natural environment
 - Army Strategy for the Environment

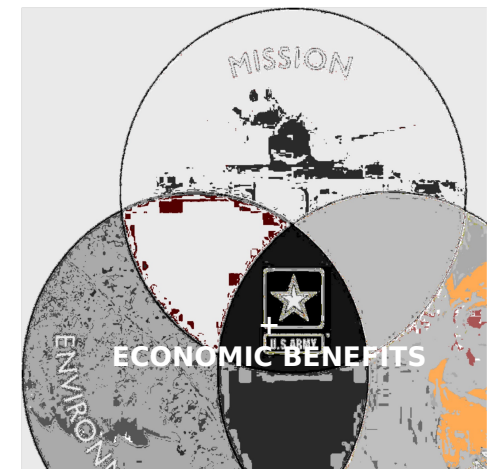
(Triple) Bottom Line

- Sustainability is essentially about long-term success
- It is about achieving organizational objectives within social, economic and environmental constraints
- It ensures future needs, aspirations and opportunities are not compromised



Traditional Triple Bottom Line

“Triple Bottom Line”
Perspective



U.S. Army
Triple Bottom Line—Plus

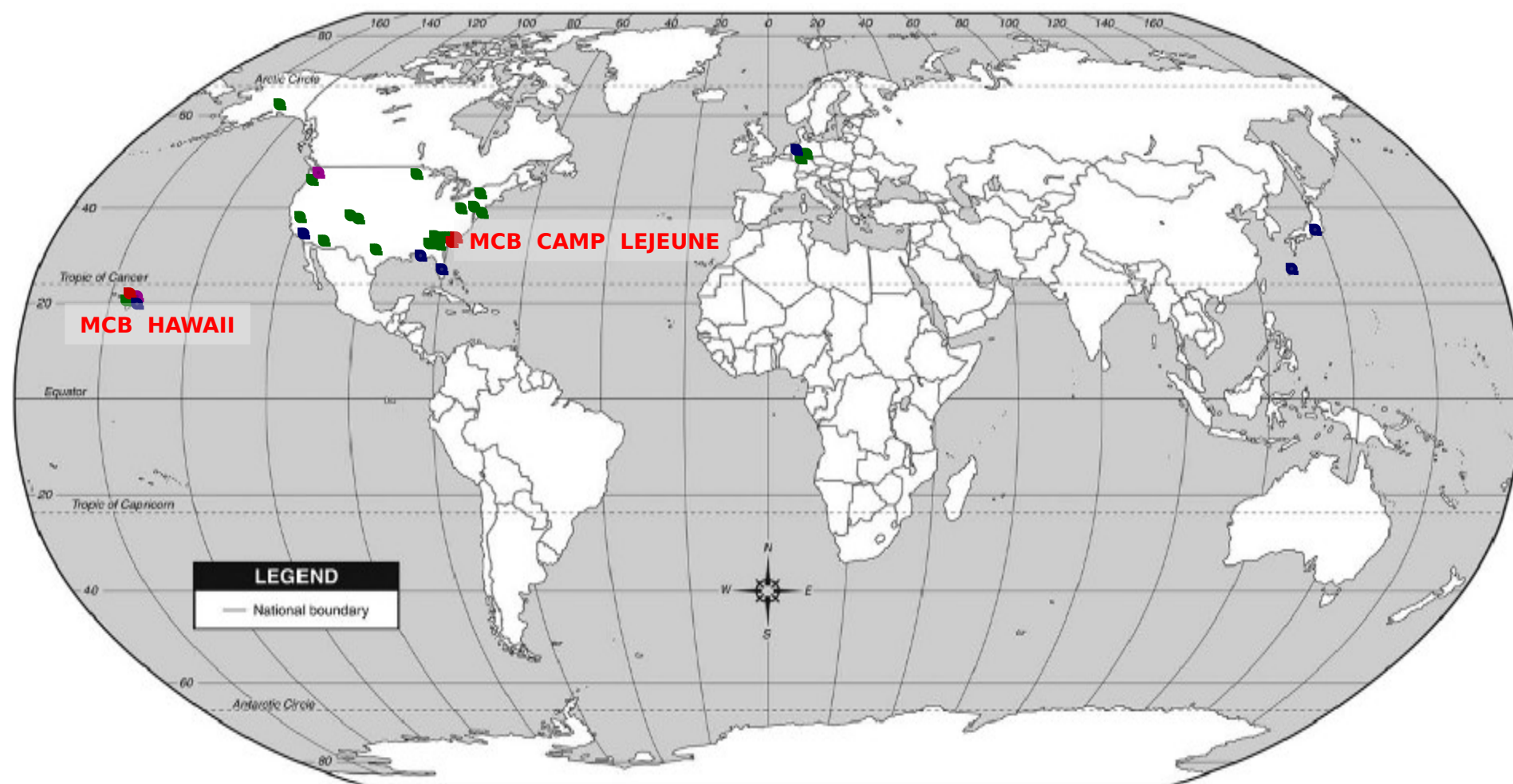
Sustainability's Value Proposition for the Defense Community

- Improve strategic responsiveness
- Decrease political instability and conflict
- Enhance military deployments
- Improve competitive advantage
- Safeguard Soldier and community well-being
- Secure and increase economic prosperity
- Improve life-cycle cost effectiveness
- Increase resiliency and maintain relevance

Some Historical Perspective

- Environmental Management within “pillars”
 - integrative concepts and actions initially defined to ensure sustainable operations (comply, prevent, conserve, restore)
 - environmental “programs” (compliance, P2, conservation, restoration) showed little mission integration or cross-pillar integration
- Single Bottom Line Perspective: “Mission is Paramount”
 - multiple factors “encroach” on training and testing
 - individual strategies developed for each encroachment
 - sustainable design policies for buildings emerged
- Triple Bottom Line and Integrated Management
 - Army leaders: “we need integrated strategies with defined end-states...”
 - social and environmental aspects *can and do* support mission objectives
 - sustainability strategies emerge with “triple bottom line” perspective
 - balanced scorecard adopted for strategic performance management

Installation Sustainability Initiatives



Army Sustainability Perspective

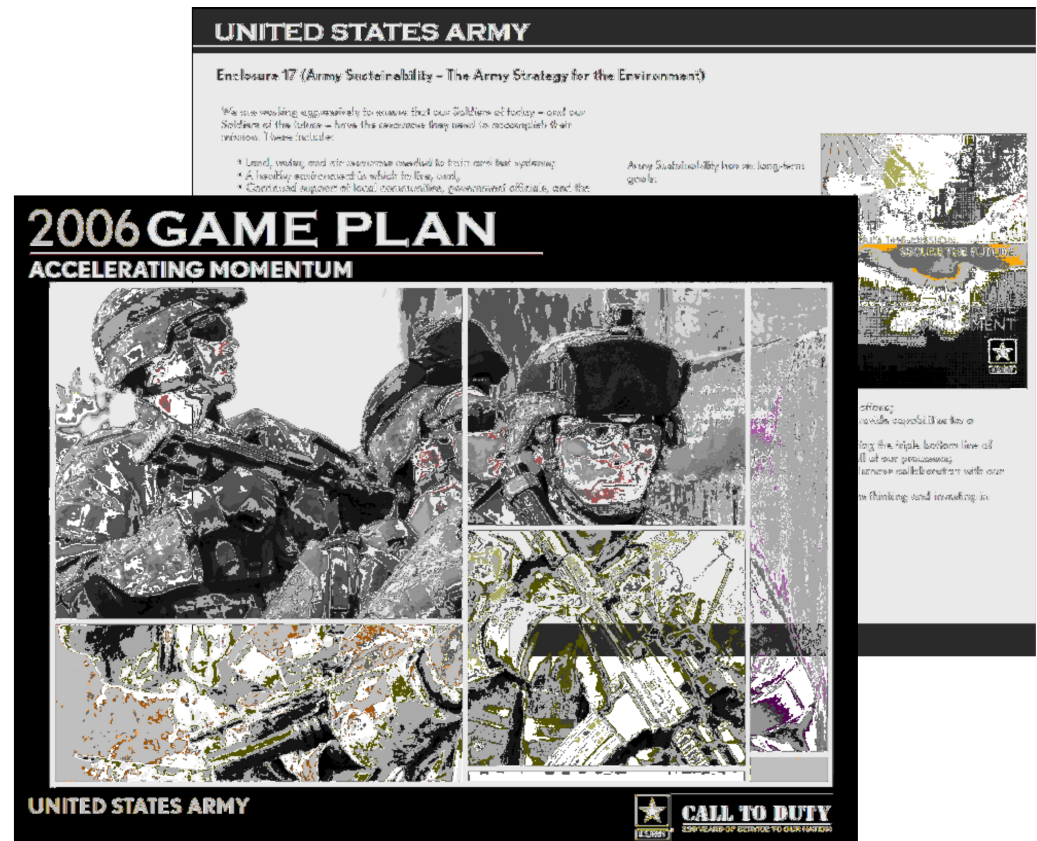
“Sustain the Mission—Secure the Future”



Sustainability Goals:

- Strengthen Army operations
- Meet mission requirements
- Minimize lifecycle impacts and total ownership costs
- Enhance well-being
- Drive innovation
- Foster a sustainability ethic

Recognizing Challenges—Linking to Mission



We are working aggressively to ensure that our Soldiers of today-and that our Soldiers of the future have the resources they need to accomplish their mission. These include land, water and air resources needed to train and test systems; a healthy environment in which to live; and continued support of local communities, government officials and the American people.

Air Force Sustainability Perspective

“Sustainability is recognizing the **direct and indirect impacts** of Air Force operations on **resources**; achieving better understanding of the full measure of resources needed in the present and the future to ensure the successful conduct of Air Force **operations**; and taking action by planning, designing and executing mission **requirements** in a manner that provides for the long-term sustainability of operations in the face of **constrained resources**.”

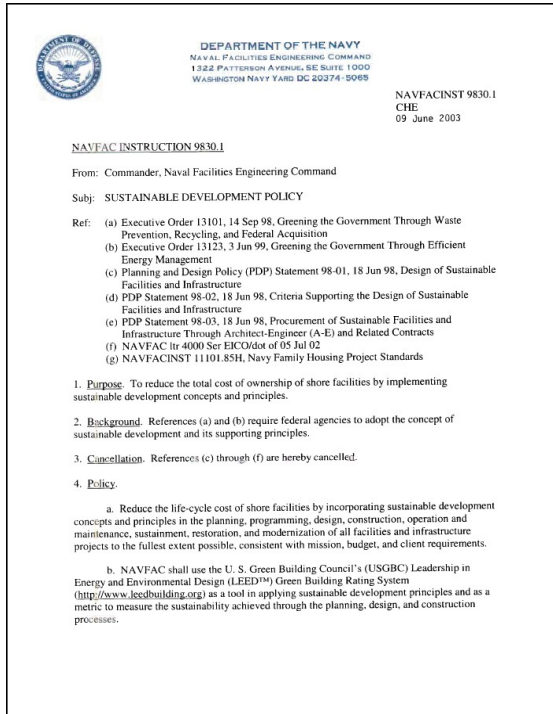
➤ *Managing for Operational Sustainability, 2007 Inaugural Report*

Key Principles:

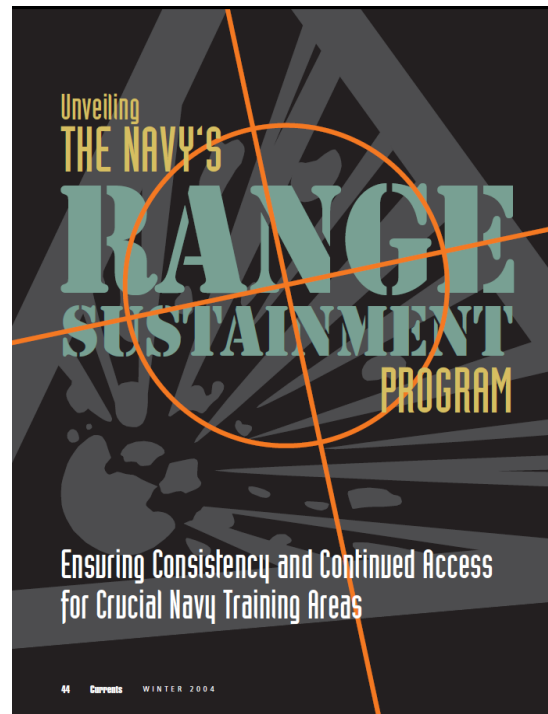
- Comply with the law
- Protect and sustain resources
- Care for our Airmen and our communities
- Be good financial stewards



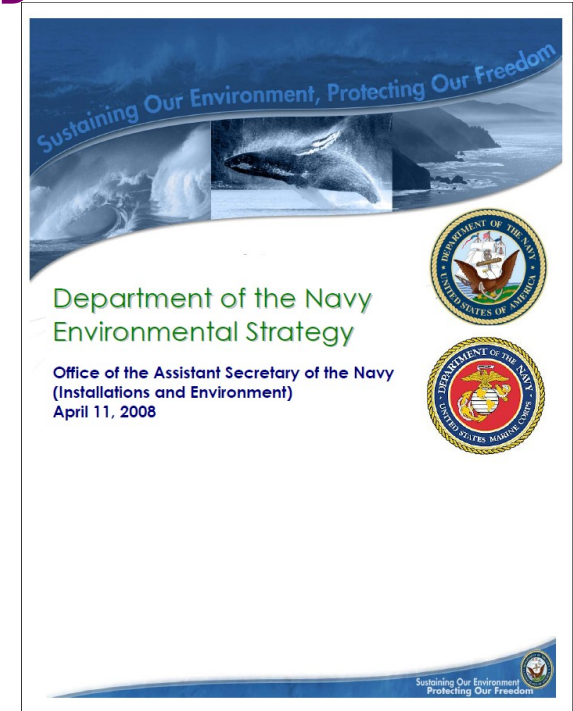
Navy Perspective on Sustainability



**Sustainable
Design and
Development**



**Sustainable
Ranges**



**Strategic
Environmental
Management**

Sustainable Design and Development

Department of Navy Policy Objectives

- Reduce the total cost of ownership of shore facilities by implementing sustainable design concepts and principles
- Apply the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Rating System
 - Sustainable sites
 - Energy and atmosphere
 - Water resources
 - Materials and waste
 - Indoor environmental quality

Navy Strategic Environmental Goals

- Accomplish the mission
- Build trust with the public
- Promote knowledge as a driver of environmental excellence
- Transform our environmental enterprise practices
- Link environment and acquisition
- Move beyond compliance

Defense Installations Strategic Plan



DoD Installation Vision

Installation assets and services are available when and where needed, with the joint capabilities and capacities necessary to effectively and efficiently support DoD missions.

Selected Objectives:

- Manage land, water, and air resources to sustain installation capabilities for missions to satisfy readiness requirements
- Retain, restore and acquire cost effective, sustainable, energy-efficient, and safe infrastructure that meets operational requirements over expected service life
- Reduce reliance on fossil fuels to meet facility and non-tactical vehicle energy requirements
- Develop and maintain partnerships with interested parties to enhance sustainability and natural resource conservation, and improve the operations of installations

DoD Pioneers in Sustainability and Strategic Planning (2000-2003)

- **MCB Camp Lejeune** (North Carolina)
- **Fort Bragg** (North Carolina)
- **Fort Carson** (Colorado)
- **Fort Campbell** (Kentucky / Tennessee)

Camp Lejeune Sustainable Development: A Plan for the Installation's Future

Basic Components to the Approach:

- Baseline Assessment
- Sustainability Workshop
- The Natural Step Training
- Sustainability Guidance Manual
- Base Order

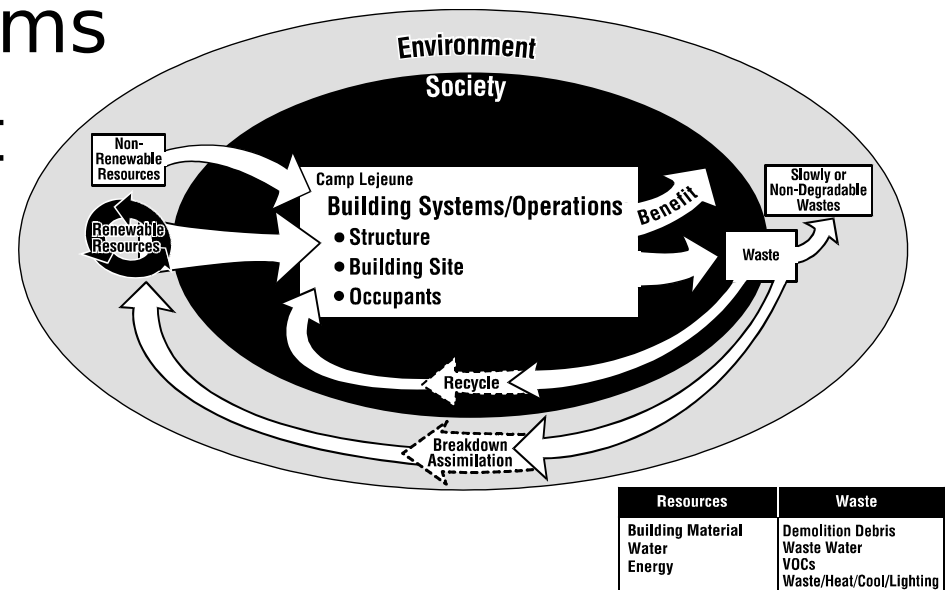
Camp Lejeune Sustainable Development: Primary Drivers

- Presidential Executive Orders
 - “Greening the Government”
- Multi-Service Assessment on Sustainable Planning
- NAVFAC Sustainable Design Policy Statements
- *North Carolina Governor’s Challenge*

Camp Lejeune Sustainable Development: Operational Categories

- Water Resources
- Transportation Systems
- Energy Management
- Building Systems
- Natural Resources
- Procurement
- Solid and Hazardous Waste
- Air Quality

**Sample System Map:
Building Systems on Camp Lejeune**



MCB Camp Lejeune: “A Model of Sustainability by 2025”

- Eliminate or minimize the sources of pollution
- Shift the demand to a renewable alternative or a less polluting alternative
- Maximize the efficiency of the system

New Pioneers in Sustainability Integration (2006 - Present)

- U.S. Army Garrison Hawaii
- U.S. Army Garrison Wiesbaden
- California National Guard
- **Marine Corps Base Hawaii**

U.S. Army Garrison, Hawaii

Cross-Functional Teams:

- Infrastructure
- Community Interaction
- Military Training
- Transportation
- Procurement
- **Workforce Development****

****Workforce Development** was a focus area that no other installation had identified before, but it accurately identified a necessity to sustain the human community through opportunities for continual training, improvement, advancement and wellness that comprises our workforce.

USAG Hawaii: Sample Workforce Goal

Recruit, develop and retain a motivated, effective, adaptable and customer-focused workforce

Strategy Statement:

Create a system thinking paradigm shift for Army professional development that supports cross-functional operation, life-long learning and perpetual career enhancement.

USAG Hawaii Sample Goal

Be a model for the U.S. Army and the State of Hawaii of reducing resource consumption while meeting mission needs

- eliminate fossil fuel dependency
- 100% LEED Platinum rating for all facilities and communities
- reduce potable water consumption by 50%
- adopt zero waste practices
- procure 100% sustainable products and services

Classic Strategic Planning Model



Where are we now?

Where do we want to be?

How do we get there?

How will we know we're there?

Sustainability Planning Model

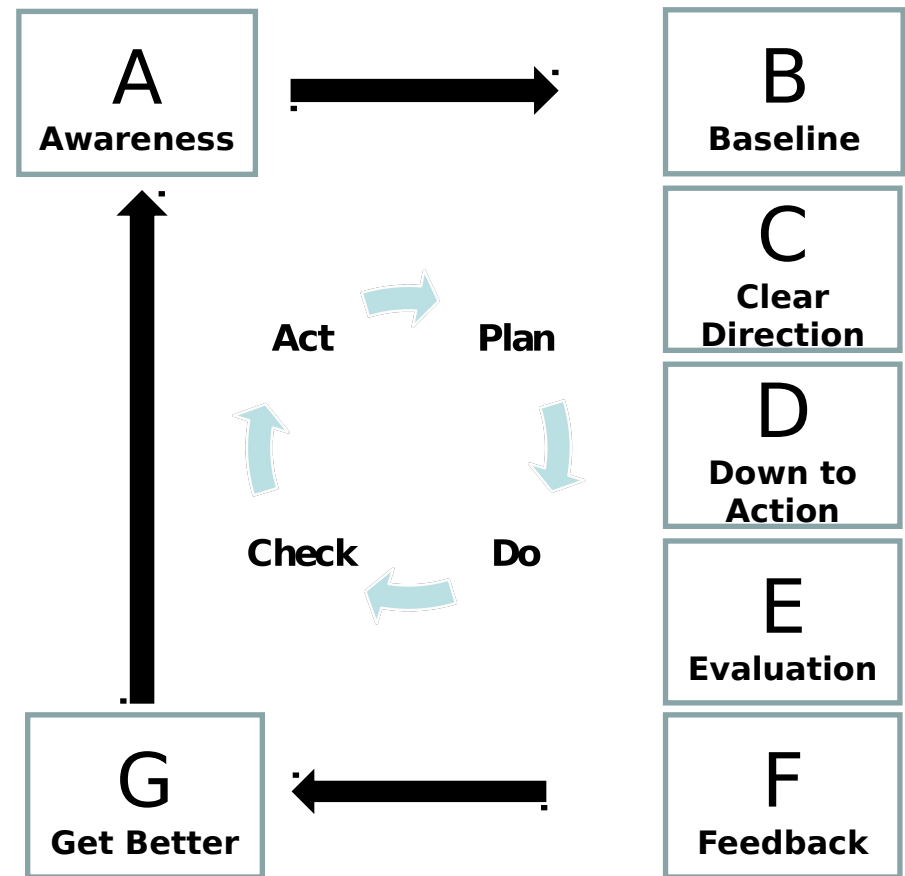
Where are we now?

Where do we want to be?

How do we get there?

How will we know
we've arrived?

Are adjustments needed?



Framework for Sustainability Planning

Level 1: The System

Understand the system of interest, the organization and its operations; understand the systems within which the organization operates

Level 2: Success

Define success for the organization in relation to the systems within which it operates (articulated as goals and measurable objectives)

Level 3: Strategy

Develop courses of action to achieve success as defined by performance objectives and measured by performance indicators

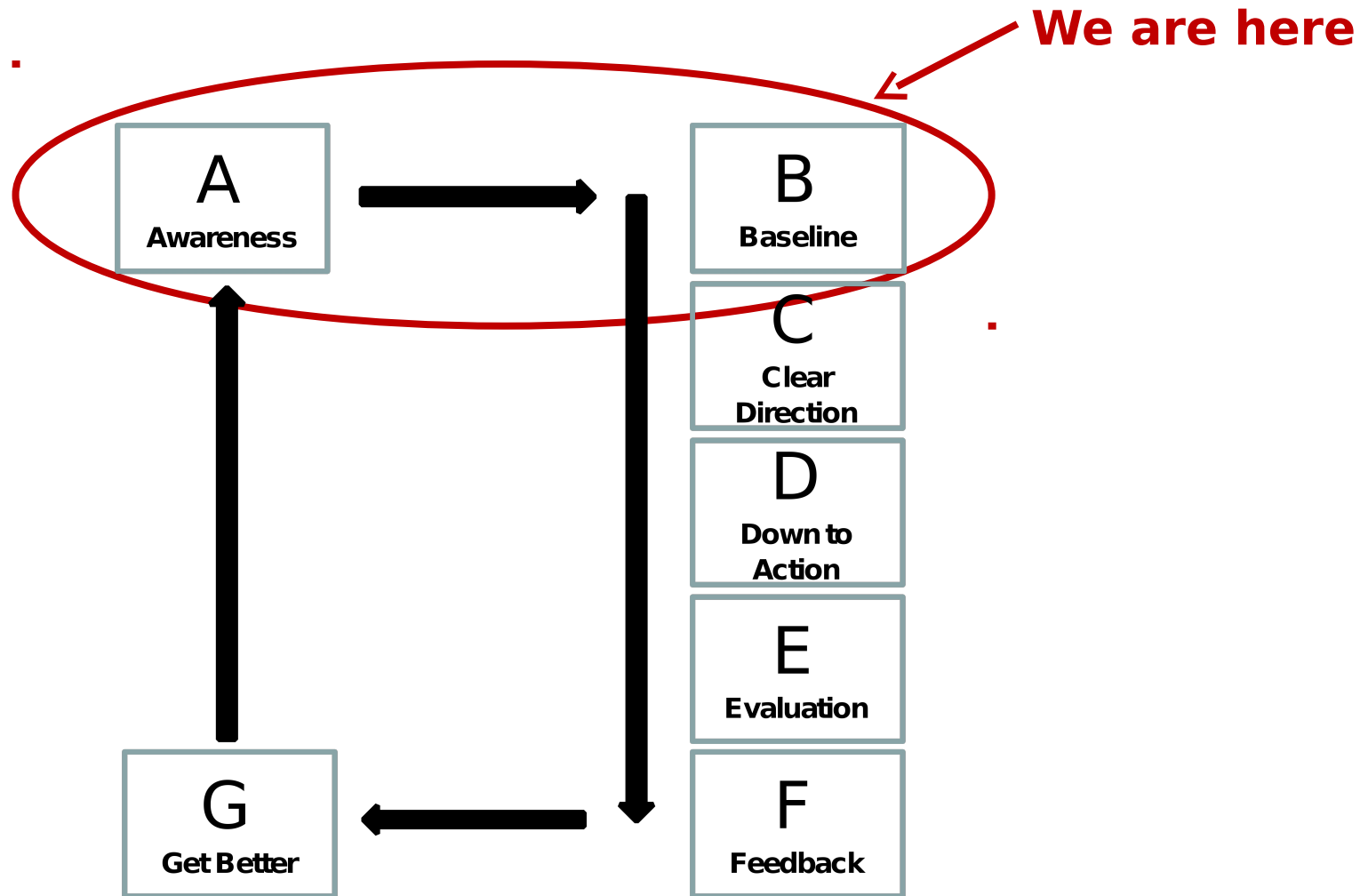
Level 4: Actions

Identify specific actions necessary; determine necessary resources and responsibilities

Level 5: Tools

Employ appropriate tools at each level to understand the system,

Next Steps: MCBH Sustainability Initiative



NDCEE Hawai'i Sustainability Planning Initiatives

- DoD Sustainability Partnerships and Planning Workshop (*completed*)
- U.S. Army Garrison, Hawaii, Sustainability and Strategic Planning Integration (*NDCEE work completed*)
- Hawai'i Military Sustainability Initiative (*on-going*)
- **MCBH Sustainability Management and Strategic Planning Integration Initiative (*on-going*)**

NDCEE Hawai'i Sustainable Technology Initiatives

- Sustainable Installations Information Exchange: Hawaii Military Energy Initiatives (*conducted 27 February 2009*)
- Army Hawaii Family Housing Zero Energy Concepts Demonstration and Validation (*near completion*)
- Forest City Residential Wind Demonstration and Validation Project (*on-going*)

Summary

- Defined sustainability for the Defense community
- Discussed historic perspectives
- Provided overview on Defense perspectives
- Shared some “pioneer” planning initiatives
- Outlined strategic planning models/frameworks
- Highlighted other NDCEE initiatives in Hawai'i

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